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| Substitute Form PTO-1449<br>(Modified)<br><br><b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br><br>(37 CFR §1.98(b)) | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br><b>07039-650002</b> | Application No.<br><b>10/777,820</b> |
|  | Applicant<br><b>Douglas A. Collins et al.</b>              |  |                                      |
|  | Filing Date<br><b>February 12, 2004</b>                    | Group Art Unit<br><b>1654</b>                |                                      |

| U.S. Patent Documents |           |                 |                  |          |       |          |                            |
|-----------------------|-----------|-----------------|------------------|----------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Document Number | Publication Date | Patentee | Class | Subclass | Filing Date If Appropriate |
|                       | AA        |                 |                  |          |       |          |                            |
|                       | AB        |                 |                  |          |       |          |                            |
|                       | AC        |                 |                  |          |       |          |                            |
|                       | AD        |                 |                  |          |       |          |                            |
|                       | AE        |                 |                  |          |       |          |                            |

| Foreign Patent Documents or Published Foreign Patent Applications |           |                 |                  |                          |       |          |             |    |
|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|   |           |                 |                  |                          |       |          | Yes         | No |
|   | AF        | WO 01/02288     | 12/06/01         | WIPO                     |       |          |             |    |
|   | AG        | WO 02/42318     | 05/30/02         | WIPO                     |       |          |             |    |
|   | AH        | WO 02/55530     | 07/18/02         | WIPO                     |       |          |             |    |
|   | AI        | WO 03/00010     | 01/03/03         | WIPO                     |       |          |             |    |
|   | AJ        |                 |                  |                          |       |          |             |    |

| Other Documents (include Author, Title, Date, and Place of Publication) |           |  |
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| Examiner Initial  | Desig. ID | Document   |
|   | AK        | "Current Status of Neutron Capture Therapy" International Atomic Energy Agency (May 2001)  |
|   | AL        | Collins et al., "Biodistribution of Radiolabeled Adenosylcobalamin in Patients Diagnosed with Various Malignancies," <i>Mayo Clin. Proc.</i> , 2000, 75:568-580. |
|   | AM        | Hogenkamp et al., "Synthesis and Characterization of <i>nido</i> -Carborane-Cobalamin Conjugates," <i>Nucl. Med. Biol.</i> , 2000, 27:89-92                      |
|   | AN        |  |

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| Examiner Signature | Date Considered |
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Substitute Disclosure Form (PTO-1449)

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|  | Applicant<br><b>Collins et al.</b>                         |  |                                      |
|  | Filing Date<br><b>February 12, 2004</b>                    | Group Art Unit<br><b>1654</b>                |                                      |

| U.S. Patent Documents |           |                 |                  |                   |       |          |                            |
|-----------------------|-----------|-----------------|------------------|-------------------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Document Number | Publication Date | Patentee          | Class | Subclass | Filing Date If Appropriate |
| /D.L./                | AA        | 4,959,356       | 09-1990          | Miura et al.      |       |          |                            |
| /D.L./                | AB        | 5,286,853       | 02-1994          | Spielvogel et al. |       |          |                            |
| /D.L./                | AC        | 6,071,545       | 06-2000          | Hendler et al.    |       |          |                            |
| /D.L./                | AD        | 2002/0002146    | 01-2002          | Halevie-Goldman   |       |          |                            |

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| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|   |           |                 |                  |                          |       |          | Yes         | No |
|   | AE        | WO 00/23793     | 05-2000          | WIPO                     |       |          |             |    |

| Other Documents (include Author, Title, Date, and Place of Publication) |           |  |
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| Examiner Initial  | Desig. ID | Document   |
|   | AF        | Takakura and Hashida, "Macromolecular drug carrier systems in cancer chemotherapy: macromolecular prodrugs," Crit. Rev. Oncology: Hematology, 1995, 18:207-231 |
|   | AG        |  |
|   | AH        |  |
|   | AI        |  |

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| Examiner Initial  | Desig. ID | Document   |
|   | AA        | Amagasaki, et al. "Expression of Transcobalamin II Receptors by Human Leukemia K562 and HL-60 Cells," Blood, Vol. 76, 1990, pp. 1380-1386.                       |
|   | AB        | Kellner, W.E., et al. "On a New Radiopharmaceutical for Kidney Imaging," Int. J. Applied Radiation and Isotopes, 1974, pp. 283-285.                              |
|   | AC        | Ponto, "Schilling Test," Pharmaceuticals in Medical Imaging, 1990, Macmillan Publishing Co., Inc., New York, pp. 621-628.  |
|   | AD        | Bouchaudon, et al. "Daunomycin Derivatives," Chemical Abstracts, 1969, pp. 440.  |
|   | AE        | Wu, et al. "Investigations of N-linked Macrocycles for <sup>111</sup> Y Labeling and <sup>90</sup> Y Labeling of Proteins," Nucl. Med. Biol., 1992, pp. 239-244. |

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|  | Filing Date<br>February 12, 2004                           | Group Art Unit<br>1654                |                               |

| U.S. Patent Documents |           |                 |                  |                       |       |          |                            |
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| Examiner Initial      | Desig. ID | Document Number | Publication Date | Patentee              | Class | Subclass | Filing Date If Appropriate |
|                       | AA        | 638,752         | 12/12/1899       | E. A. Perkins         |       |          |                            |
|                       | AB        | 3,494,769       | 02/10/1970       | Tressler              |       |          |                            |
|                       | AC        | 4,399,163       | 08/16/1983       | Brennan, et al.       |       |          |                            |
|                       | AD        | 4,411,925       | 10/28/1983       | Brennan, et al.       |       |          |                            |
|                       | AE        | 4,423,029       | 12/27/1983       | Rizzi                 |       |          |                            |
|                       | AF        | 4,976,960       | 12/11/1990       | Grossman, et al.      |       |          |                            |
|                       | AG        | 5,187,107       | 02/16/1993       | Watkins, et al.       |       |          |                            |
|                       | AH        | 5,556,644       | 09/17/1996       | Chandra               |       |          |                            |
|                       | AI        | 5,559,796       | 09/24/1996       | Edem, et al.          |       |          |                            |
|                       | AJ        | 5,569,477       | 10/29/1996       | Nesbitt               |       |          |                            |
|                       | AK        | 5,578,336       | 11/26/1996       | Monte                 |       |          |                            |
|                       | AL        | 5,789,573       | 08/04/1998       | Baker, et al.         |       |          |                            |
|                       | AM        | 5,820,903       | 10/13/1998       | Fleury, et al.        |       |          |                            |
|                       | AN        | 5,869,084       | 02/09/1999       | Paradissis, et al.    |       |          |                            |
|                       | AO        | 5,879,465       | 03/09/1999       | McKevitt, et al.      |       |          |                            |
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|                       | AQ        | 5,925,625       | 07/20/1999       | Merkus                |       |          |                            |
|                       | AR        | 5,948,443       | 09/07/1999       | Riley, et al.         |       |          |                            |
|                       | AS        | 5,955,321       | 09/21/1999       | Bijl                  |       |          |                            |
|                       | AT        | 5,964,224       | 10/12/1999       | Kaji                  |       |          |                            |
|                       | AU        | 5,985,339       | 11/16/1999       | Kamarei               |       |          |                            |
|                       | AV        | 6,015,887       | 01/18/2000       | Teng                  |       |          |                            |
|                       | AW        | 6,022,853       | 02/08/2000       | Kuberasampath, et al. |       |          |                            |
|                       | AX        | 6,030,650       | 02/29/2000       | Kamarei               |       |          |                            |
|                       | AY        | 6,039,978       | 03/21/2000       | Bangs, et al.         |       |          |                            |
|                       | AZ        | 6,046,307       | 04/04/2000       | Shay, et al.          |       |          |                            |
|                       | AAA       | 6,056,973       | 05/02/2000       | Allen, et al.         |       |          |                            |
|                       | ABB       | 6,077,557       | 06/20/2000       | Gordon, et al.        |       |          |                            |
|                       | ACC       | 6,093,425       | 07/25/2000       | Kamarei               |       |          |                            |
|                       | ADD       | 6,093,701       | 07/25/2000       | Wolff, et al.         |       |          |                            |

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|  |  | Filing Date<br>February 12, 2004      | Group Art Unit<br>1654        |

| U.S. Patent Documents |           |                 |                  |                   |       |          |                            |
|-----------------------|-----------|-----------------|------------------|-------------------|-------|----------|----------------------------|
| Examiner Initial      | Desig. ID | Document Number | Publication Date | Patentee          | Class | Subclass | Filing Date If Appropriate |
|                       | AEE       | 6,110,472       | 08/29/2000       | Levere, et al.    |       |          |                            |
|                       | AFF       | 6,121,249       | 09/19/2000       | Weissman, et al.  |       |          |                            |
|                       | AGG       | 6,126,980       | 10/03/2000       | Smith, et al.     |       |          |                            |
|                       | AHH       | 6,153,737       | 11/28/2000       | Manoharan, et al. |       |          |                            |
|                       | AII       | 6,165,720       | 12/26/2000       | Felgner, et al.   |       |          |                            |
|                       | AJJ       | 6,183,723       | 02/06/2001       | Seetharam, et al. |       |          |                            |
|                       | AKK       | 6,274,564       | 08/14/2001       | Sarill, et al.    |       |          |                            |
|                       | ALL       | 6,316,198       | 11/13/2001       | Skouv, et al.     |       |          |                            |
|                       | AMM       | 6,395,492       | 05/28/2002       | Manoharan, et al. |       |          |                            |
|                       | ANN       | 6,806,363       | 10/19/2004       | Collins, et al.   |       |          |                            |
|                       | AOO       | 6,838,073       | 01/04/2005       | Collins, et al.   |       |          |                            |
|                       | APP       | 2004/0162240    | 08/19/2004       | Collins, et al.   |       |          |                            |
|                       | AQQ       | 2005/0004010    | 01/06/2005       | Collins, et al.   |       |          |                            |

| Foreign Patent Documents or Published Foreign Patent Applications |           |                 |                  |                          |       |          |             |    |
|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|   |           |                 |                  |                          |       |          | Yes         | No |
|   | APR       | 1 811 518       | 07/10/69         | DE                       |       |          | Abst.       |    |
|   | ASS       | 0 005 834       | 10/14/81         | EPO                      |       |          |             |    |
|   | ATT       | 0 069 450       | 04/10/85         | EPO                      |       |          |             |    |
|   | AUU       | 0 165 716       | 01/31/90         | EPO                      |       |          |             |    |
|   | AVV       | 58-046027       | 03/17/83         | JPO                      |       |          | Abst.       |    |
|   | AWW       | WO 89/01475     | 02/23/89         | WIPO                     |       |          |             |    |
|   | AXX       | WO 92/13571     | 08/20/92         | WIPO                     |       |          |             |    |
|   | AYY       | WO 94/27613     | 12/08/94         | WIPO                     |       |          |             |    |
|   | AZZ       | WO 94/27641     | 12/08/94         | WIPO                     |       |          |             |    |
|   | AAAA      | WO 95/27723     | 10/19/95         | WIPO                     |       |          |             |    |
|   | ABBB      | WO 96/04016     | 02/15/96         | WIPO                     |       |          |             |    |
|   | ACCC      | WO 96/31243     | 10/10/96         | WIPO                     |       |          |             |    |
|   | ADDD      | WO 97/14711     | 04/24/97         | WIPO                     |       |          |             |    |
|   | AEFF      | WO 97/18331     | 05/22/97         | WIPO                     |       |          |             |    |

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|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| Examiner Initial  | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|   |           |                 |                  |                          |       |          | Yes         | No |
|   | AEFF      | WO 97/33627     | 09/18/97         | WIPO                     |       |          |             |    |
|   | AGGG      | WO 98/08850     | 03/05/98         | WIPO                     |       |          |             |    |
|   | AHHH      | WO 99/20643     | 04/29/99         | WIPO                     |       |          |             |    |
|   | AIIL      | WO 99/65529     | 12/23/99         | WIPO                     |       |          |             |    |
|   | AIIL      | WO 99/65930     | 12/23/99         | WIPO                     |       |          |             |    |
|   | AKKK      | WO 00/45857     | 08/10/00         | WIPO                     |       |          | Abst        |    |
|   | ALLL      | WO 00/62808     | 10/26/00         | WIPO                     |       |          |             |    |
|   | AMMM      | WO 00/74721     | 12/14/00         | WIPO                     |       |          |             |    |
|   | ANNN      | WO 01/17694     | 03/15/01         | WIPO                     |       |          | Abst        |    |
|   | AOOO      | WO 01/30067     | 05/03/01         | WIPO                     |       |          |             |    |
|   | APPP      | EP 0 220 030    | 10/10/86         | Europe                   |       |          |             |    |

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| Examiner Initial  | Desig. ID | Document   |
|   | APPP      | Anton et al., "The Synthesis and Properties of Four Spin-labeled Analogs of Adenosylcobalamin," <u>J. Biol. Chem.</u> , 1980, 255(10):4507-4510                            |
|   | ASSS      | Begley et al., "Cobalamin Metabolism in Cultured Human Chorionic Villus Cells," <u>J. Cell. Physiol.</u> , 1993, 156:43-47   |
|   | ATTT      | Bernhauer et al., "Zur Chemie und Biochemie der Corrinioide," <u>Biochem. Z.</u> , 1966, 344:289-309 (English Abstract included)   |
|   | ABUU      | Blomquist et al., "Uptake of Labeled Vitamin B <sub>12</sub> and 4-Iodophenylalanine in some Tumors of Mice," <u>Experientia</u> , 1969, 25(3):294-296                     |
|   | AVVV      | Breeman et al., "Indium-111 labeled DTPA- and DOTA-bombesin analogs for receptor scintigraphy and radiotherapy," <u>J. Nucl. Med.</u> , 1999, 40(5):103P, Abstract No. 418 |
|   | AWWW      | Collins and Hogenkamp, "Transcobalamin II Receptor Imaging via Radiolabeled Diethylene-Triaminepentaacetate Cobalamin Analogs," <u>J. Nucl. Med.</u> , 1997, 38(5):717-723 |
|   | AXXX      | Collins et al., "Tumor Imaging Via Indium 111-Labeled DTPA-Adenosylcobalamin," <u>Mayo Clin. Proc.</u> , 1999, 74(7):687-691   |
|   | AYYY      | Cooper and Paranchych, "Selective Uptake of Specifically Bound Cobalt-58 Vitamin B <sub>12</sub> by Human and Mouse Tumour Cells," <u>Nature</u> , 1961, 191:393-395       |
|   | AZZZ      | de Jong et al., "Radionuclide therapy using radiolabeled somatostatin analogs in tumor-bearing rats," <u>J. Nucl. Med.</u> , 1999, 40(3):102P, Abstract No. 414            |
|   | ABUU      | Finkler and Hall, "Nature of the Relationship between Vitamin B <sub>12</sub> Binding and Cell Uptake," <u>Arch. Biochem. Biophys.</u> , 1967, 120:79-85                   |
|   | ABBBB     | Flodh et al., "Accumulation of Labeled Vitamin B <sub>12</sub> in Some Transplanted Tumors," <u>Int. J. Cancer</u> , 1968, 3(5):694-699                                    |
|   | ACCCC     | Hall et al., "Cyclic Activity of the Receptors of Cobalamin Bound to Transcobalamin II," <u>J. Cell. Physiol.</u> , 1967, 133:187-191                                      |

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| Examiner Initial  | Desig. ID | Document  |
|   | ADDDD     | Hatanaka (ed.), "Clinical Experience of Boron-Neutron Capture Therapy for Gliomas - A Comparison with Conventional Chemo-Immuno-Radiotherapy," <u>Boron-Neutron Capture Therapy for Tumors</u> , 1986, Chapter 25, pp. 349-379  |
|   | AELEE     | Hogenkamp, "Chemical Synthesis and Properties of Analogs of Adenosylcobalamin. <u>Biochemistry</u> , 1974, 13(13):2736-2740   |
|   | AEEEE     | Lindemans et al., "Uptake of Transcobalamin II-Bound Cobalamin by HL-60 Cells: Effects of Differentiation Induction," <u>Exp. Cell Res.</u> , 1989, 184(2):449-460  |
|   | AGGGG     | Luo, "Studies on bone tumor therapeutic radiopharmaceuticals IV, Investigation of the structure-activity relationships (SARS) of <sup>153</sup> Sm aminocarboxylate complexes," <u>J. Nucl. Med.</u> , 1999, 40(5):316P, Abstract No. 1386  |
|   | AHHHH     | Mishima et al., "First human clinical trial of melanoma neutron capture. Diagnosis and therapy," <u>Strahlenther. Onkol.</u> , 1989, 165:251-254  |
|   | AIIII     | Momen et al., "Impact of high resolution bone spect imaging of the thoracolumbar spine on patient management in oncology," <u>J. Nucl. Med.</u> , 1999, 40(5):102P, Abstract No. 413  |
|   | AJJJJ     | Rappazzo and Hall, "Transport Function of Transcobalamin II," <u>J. Clin. Invest.</u> , 1972, 51:1915-1918  |
|   | AKKKK     | Ruser et al., "Synthesis and Evaluation of Two New Bifunctional Carboxymethylated Tetraazamacrocyclic Chelating Agents for Protein Labeling with Indium-111," <u>Bioconj. Chem.</u> , 1990, 1:345-349   |
|   | ALLLL     | Wilbur et al., "Evaluation of Biotin-Dye Conjugates for Use in an HPLC Assay To Assess Relative Binding of Biotin Derivatives with Avidin and Streptavidin," <u>Bioconj. Chem.</u> , 2000, 11(4):584-598  |
|   | AMMMM     | Wilbur et al., "Biotin Reagents for Antibody Pretargeting. 4. Selection of Biotin Conjugates for in Vivo Application Based on Their Dissociation Rate from Avidin and Streptavidin," <u>Bioconj. Chem.</u> , 2000, 11(4):569-583  |
|   | AOOOO     | Aldrain-Herrada et al., "A peptide nucleic acid (PNA) is more rapidly internalized in cultured neurons when coupled to a retro-inverso delivery peptide. The antisense activity depresses the target mRNA and protein in magnocellular oxytocin neurons," <u>Nucl. Acid Res.</u> 1998, 26(21):4910-4916 |
|   | APPPP     | Allen, "Human Vitamin B12 Transport Proteins," <u>Progress in Hematology</u> , 1975, 9:57-84  |
|   | AQOOO     | Alvarez et al., "On a New Radiopharmaceutical for Kidney Imaging," <u>International J. Applied Radiation and Isotopes</u> , 1974, 25(6):283-285   |
|   | ARRRR     | Anderson, et al., "Preparation, Biodistribution and Dosimetry of Copper-64-Labeled Anti-Colorectal Carcinoma Monoclonal Antibody Fragments 1A3-F(ab') <sub>2</sub> ," <u>J. Nuc. Med.</u> , 1995, 36:850-858  |
|   | ASSSS     | Basu et al., "Synthesis and Characterization of a Peptide Nucleic Acid conjugated to a D-Peptide Analog of Insulin-like Growth Factor 1 for increased Cellular Uptake," <u>Bioconj. Chem.</u> , 1997, 8:481-488   |
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| Substitute Form PTO-1449<br>(Modified)   | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>07039-650002 | Application No.<br>10/777,820 |
| <b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br>(37 CFR §1.98(b)) |  | Applicant<br>Collins et al.           |                               |
|  |  | Filing Date<br>February 12, 2004      | Group Art Unit<br>1654        |

| Other Documents (include Author, Title, Date, and Place of Publication) |           |   |
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